

**Marked-Up Copy**

Serial No:

Amendment Filed on:

IN THE CLAIMS

Please amend the claims as follows:

--5. (Amended) Method according to claim 3 [or 4], wherein step a) also comprises a chemical treatment step of the gold layer at the base of the microtroughs in the presence of a functionalised pyrrole for example with a thiol group so as to form a monolayer of pyrrole onto said gold layer, at the base of said microtroughs.

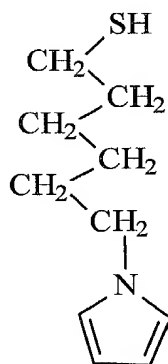
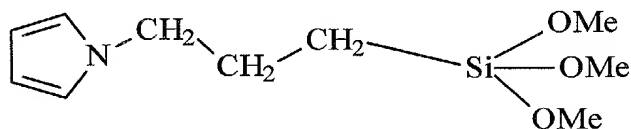
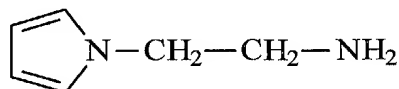
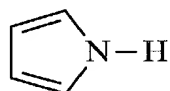
7. (Amended) Method according to [any of claims 1 to 6] claim 1, wherein the substrate is a silicon insert.

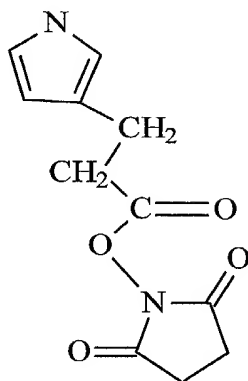
10. (Amended) Method according to [any of claims 1 to 9] claim 1, wherein the collective electropolymerisation is carried out by immersing the structured substrate obtained in step a) mentioned above in an electrolytic bath comprising a solution of pyrrole, functionalised pyrrole, and suitable chemical reagents for electropolymerisation, in the presence of a counterelectrode which is immersed in the electrolytic bath and is independent of the structured substrate, the layer of material capable of initiating and promoting the adhesion onto said layer of the pyrrole and functionalised pyrrole copolymer film forming a working electrode.

11. (Amended) Method according to [any of claims 1 to 10] claim 1, wherein the functionalised pyrrole is a pyrrole comprising a group chosen in a set comprising an  $\text{NH}_2$

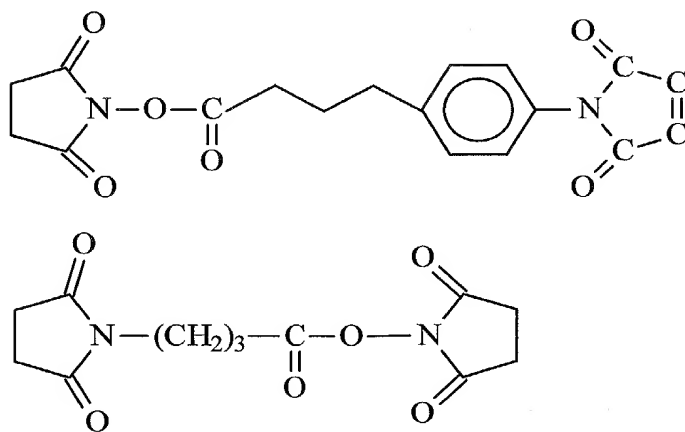
group, a thiol group, an N-hydroxysuccinimide ester group, a trimethoxy silyl group, a carboxyl, aldehyde and isothiocyanate group.

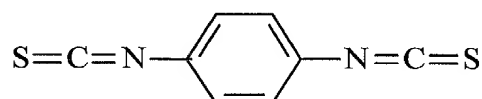
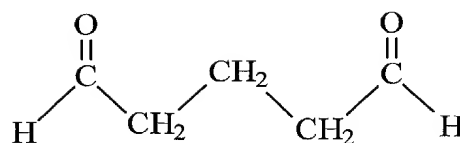
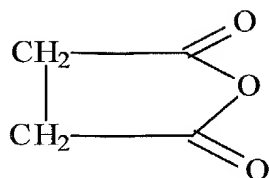
12. (Amended) Method according to [any of claims 1 to 10] claim 1, wherein the functionalised pyrrole is chosen from one of the following compounds:





15. (Amended) Method according to claim 13, wherein the cross-linking agent is chosen from one of the following compounds:





19. (Amended) Blank biochip comprising in this order:

- a substrate,
- a layer of material capable of initiating and promoting on said layer the adhesion of a film of a pyrrole and functionalised pyrrole copolymer by electropolymerisation,
- a layer of resin coating said layer of material capable of initiating and promoting the adhesion on said layer of a film of a pyrrole and functionalised pyrrole copolymer, wherein microtroughs have been produced such that the base of said microtroughs is composed at least partly of the layer of said materials,
- a layer of a pyrrole and functionalised pyrrole copolymer, fixed on said material composing the base of said microtroughs.--

Claims 21-26 (New).